AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the captioned application.

Listing of Claims:

Claims 1 – 38 are cancelled

Claim 39. (Previously Presented) A seismic survey network comprising a plurality of seismic data acquisition modules and a central data processing unit; said seismic data acquisition modules having a first global positioning system receiver, capable of computing its position and time from received global positioning signals and a first clock; said central data processing unit having a second clock and a second global positioning system receiver and facilitating processor associated with said second clock, each of said data acquisition modules being a data processing module having one or more seismic sensors with respective specific identities operatively connected thereto for transmission of seismic data to the respective data acquisition module; said data acquisition modules being programmed to convert instants of seismic data values at predetermined time intervals to signal transmissions in the form of digital data packets that are respectively distinguished by the first clock time of the instant that respective seismic data is received and by the specific identity of the seismic sensor source of said data; data packets generated by a first data acquisition module being transmitted along a transmission route that includes receipt and retransmission of said data packets by at least one other data processing module prior to receipt by said central data processing unit, said central data processing unit having means to transmit clock synchronization signals to said other data processing module and said other data processing module having means for retransmission of said synchronization signals along said transmission route in a transmission direction opposite from said data packets.

Claim 40. (Previously Presented) A seismic survey network as described by claim 39 wherein said one other data processing module is a second data acquisition module.

Claim 41. (Previously Presented) A seismic survey network as described by claim 39 wherein said one other data processing module is a communication module.

Claim 42. (Previously Presented) A seismic survey network as described by claim 39 wherein said one other data processing module is a base line module.

Claim 43. (Previously Presented) A seismic survey network as described by claim 30 wherein said one other data processing module is a line tap unit.

Claim 44. (Previously Presented) A seismic survey network as described by claim 39 wherein said clock synchronization signal corresponds to the time of said second clock for transmission to said other data processing modules along said data transmission route.

Claim 45. (Previously Presented) A seismic survey network as described by claim 39 wherein said first data acquisition module comprises means responsive to said clock synchronization signal to coordinate the time value of said first clock to the time value of said second clock.

Claim 46. (Previously Presented) A seismic survey network as described by claim 39 wherein said transmission route comprises a plurality of data transmission increments serially linking respective data acquisition modules, other data processing modules and central data processing unit, each of said increments having a predetermined data propagation time interval, the data propagation time intervals of data transmission increments adjacent each module and unit being programmed in the respective module and unit as a reference for a expected signal reception time along the respective increment.

Claim 47. (Previously Presented) A seismic survey network as described by claim 39 wherein the specific identity of a seismic sensor source of a data packet is implicitly distinguished by the sequential reception order of said data packet by said central data processing unit.

Claim 48. (Previously Presented) A seismic survey network according to Claim 39 in which said first global positioning receiver is constructed with less capability and at less cost and with lower power consumption than said second global positioning receiver.

Claim 49. (Previously Presented) A seismic survey network according to Claim 39 further having one or more global, regional or local radio beacon receivers, suitable for receiving timing signals, associated with one or more of said clocks.

Claim 50. (Previously Presented) A seismic survey network according to Claim 39 wherein said data acquisition and other data processing modules are equipped with means for determining time according to said second clock, for creating data packets corresponding to said second clock time and for annotating the second clock time on the created data packets.

Claim 51. (Previously Presented) A seismic survey network according to Claim 39 wherein said data acquisition and other data processing modules are equipped with means for receiving synchronization signals emanating from said central control module and determining time according to said second clock, for retransmitting said synchronization signals and for annotating the second clock time on synchronization signals originated and retransmitted by said modules.

Claim 52. (Previously Presented) A seismic survey network as described by claim 39 wherein said second clock is a master clock of greater precision than said first clock.

Claim 53. (Previously Presented) A seismic survey network as described by claim 52 wherein said first clock is an instrument of less precision than said master clock.

Claim 54. (Previously Presented) A seismic survey network as described by claim 52 wherein said other data processing module comprises a third clock of less precision than said master clock.

Claim 55. (Previously Presented) A seismic survey network as described by claim 54 wherein said third clock is an instrument of greater precision than said first clock.

Claim 56. (Previously Presented) A seismic survey network as described by claim 39 wherein said second global positioning receiver is utilized to communicate respective global-positioning system information to respective said data acquisition modules over said seismic survey network and said first global positioning receivers utilize said information to improve the accuracy of their computation of current time.

Claim 57. (Previously Presented) A seismic survey network as described by claim 39 wherein said second global positioning receiver and facilitating processor receives global-positioning-system information from said data acquisition modules over said seismic survey network, said information being utilized by said second global positioning receiver and facilitating processor to improve the accuracy of its computation of the positions of said data acquisition modules.

Claim 58. (Previously Presented) A seismic survey network as described by claim 57 wherein said information comprises accumulated received global-positioning-system signals and related data.

Claim 59. (Previously Presented) A seismic survey network as described by claim 57 wherein position coordinates of said data acquisition modules computed by said second global positioning receiver or said facilitating processor are communicated to said respective data acquisition module by data packet communication over said seismic survey network.

Claim 60. (Previously Presented) A seismic survey network as described by claim 59 wherein said first global positioning receivers or said data acquisition modules utilize said position coordinates to compute a best estimate of time utilizing signals they receive from one or more global-positioning-system satellites.

Claim 61 (Previously Presented) A seismic survey network as described by claim 39 wherein said second global positioning receiver and facilitating processor communicate information to said data acquisition modules over said seismic survey network, said information being utilized by said first global positioning receivers to improve their satellite tracking processes.

Claim 62. (Previously Presented) A seismic survey network as described by claim 61 wherein said information includes the current and future locations and identifications of available satellites.

Claim 63. (Previously Presented) A seismic survey network as described by claim 39 wherein said first global positioning receiver receives assistance in computing its position or time from said second global positioning receiver and facilitating processor, said assistance being enabled by data packet communication over said seismic survey network.

Claim 64. (Previously Presented) A seismic survey network as described by claim 39 wherein said second global positioning receiver and facilitating processor communicate global-positioning-system information to said data acquisition module over said seismic survey network, said information being utilized by said first global positioning receiver to improve the accuracy of its computation of its own position.

Claim 65 (Previously Presented) A seismic survey network as described by claim 39 wherein said first global positioning receiver is an assisted global positioning receiver that relies on network-communicated assistance from said second global positioning receiver or its facilitating processor to determine accurate time and/or position coordinates.